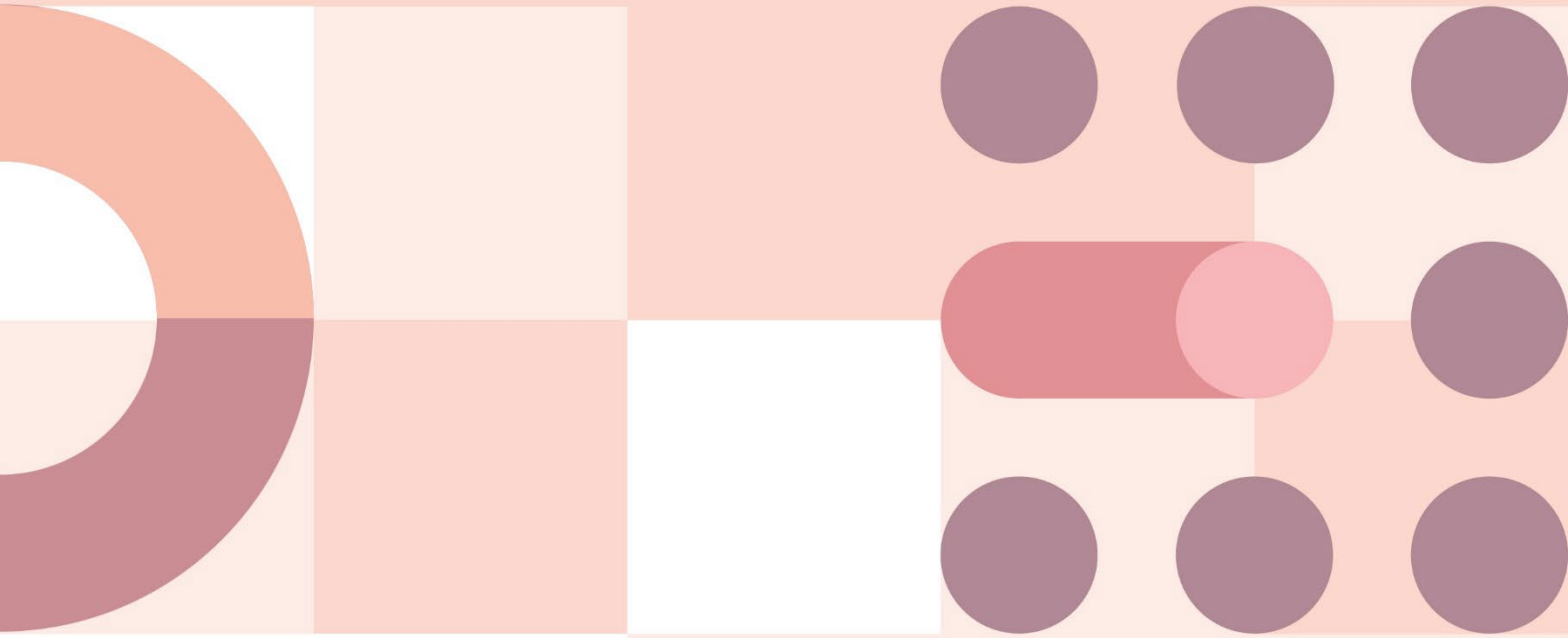
DIGITAL FRONTIERS

Developing Talent Ecosystems in Emerging Markets



How Do Emerging Markets Build the Professional Talent Ecosystems Needed for Systemic Change?

The experience of Digital Frontiers offers one answer. Over a decade, Digital Frontiers has demonstrated that sustainable progress in financial inclusion requires more than policies, funding, or isolated training programmes. It requires professional infrastructure: shared knowledge, common language, strong networks, continuous professional development, and institutions that help practitioners collaborate across organisational boundaries.

The Digital Frontiers experience offers important insights into how capacity-building becomes part of the infrastructure for systemic change.

How Did Financial Inclusion Emerge as a Global Development Priority?

Early financial inclusion activities focused on microfinance endeavours and other efforts to increase access to credit. Over time, financial inclusion expanded to include basic access to financial services. And with the emergence of connectivity, mobile money, and mobile phones, interest in financial inclusion broadened as access to crucial evidence for good decision-making expanded.

> Global Findex debuted in 2011, collating data on how adults around the world use financial services and manage financial events in their own lives. Respondents provided direct insights into savings behaviour, account ownership, payment methods, and other practical aspects of banking. The inaugural survey provided formerly unavailable insights and data to policymakers. It served as a global baseline for policy and programme efforts, highlighted disparities and inclusion gaps across multiple demographics, and identified barriers to access.

With robust data at their disposal through the World Bank's Global Findex reports and other emerging data sources, government policymakers developed National Financial Inclusion Strategies with measurable targets and greater emphasis on vulnerable populations. With these common data reference points, international coordination strengthened and research accelerated. Definitions of financial inclusion expanded to encompass multiple components: access to services (including affordability), usage, quality *(i.e., are products appropriate, reliable, and tailored to the needs of different users?),* consumer protection, and impact *(i.e., do services help people/communities cope with emergencies, build businesses or wealth, or improve their access to education, health, or other services?).*

As financial inclusion became more ambitious, evidence-based, and institutionally important, the professional capability required to translate those ambitions into products, regulation, and institutional practice had not developed at the same pace.

Why Did Financial Inclusion Need a Professional Ecosystem?

While progress was happening at the policy level, a critical gap remained. Low- to middle-income countries lacked a strong cohort of public and private-sector professionals armed with the knowledge, tools, and connections needed to see positive, sustained progress on global finance issues such as financial inclusion. The digital finance profession did not yet exist at scale, nor did many professional associations. This gap between policy and practice was not unique; it is a common challenge across a diverse range of sectors and country contexts.

In 2015, Digital Frontiers founders David Porteous, Ignacio Mas, and Gavin Krugel embarked on a journey to resolve the human capacity gap in inclusive digital finance. The desire already existed, incubated in the passion of existing practitioners eager to grow the sector beyond its early incarnation. Digital Frontiers' hypothesis that sustainable progress required more than better policies or isolated capacity-building programmes complemented the sector's growing momentum and appetite for change. Their vision of a broad community of professionals across public and private institutions, connected by practical knowledge, mutual trust, and the confidence and relationships to solve problems together, brought together vital threads to help unleash and multiply that potential.

It's now understood that new markets (like digital finance was in 2015) often suffer because the shared infrastructure needed to stabilise transactions has not yet emerged. Research on technological infrastructure describes similar early capability-building, standards, information, and training as public goods required for "building markets".

By providing in-country professionals with the right knowledge, practical capabilities, diverse networks, and confidence, Digital Frontiers sought to bolster private and public-sector institutional capacity to foster the critical momentum needed to transform the sector from within. They expected this would drive wider financial inclusion through better financial products and services, new policies and inclusive regulation, and increased collaboration and harmonisation across the ecosystems.

How Did Digital Frontiers Help Build a Professional Ecosystem for Financial Inclusion?

When Digital Frontiers launched its first course, several organisations were already implementing financial inclusion training. Among the most respected providers were the Alliance for Financial Inclusion and the Frankfurt School of Finance and Management, who jointly offered a Certified Expert in Financial Inclusion (CEFI) Policy designation. Other groups provided a range of workshops, online courses, and training events in the financial inclusion space.

While Digital Frontiers was not the first organisation to provide learning journeys in financial inclusion, the organisation took a fundamentally different approach that distinguished it from other providers.

Building Professional Infrastructure Beyond Initial Capacity-Building. At the core of Digital Frontiers' approach was the desire to build an ecosystem of financial inclusion professionals. Policymaking is critically important, but Digital Frontiers recognised that practical-level change only occurs when those people most responsible for creating products, delivering services, and engaging directly with end users are equipped with practical knowledge, a shared language and understanding, and an enduring network of trusted professional relationships within and across organisations, agencies, and government structures. Digital Frontiers recognised that the financial inclusion space was dynamic,

rapidly changing over time. This constantly shifting landscape demanded not just a competent workforce, but a professional one with formal qualifications, demonstrated capabilities, and most critically, ongoing professional development opportunities and continuing education. A professional workforce strengthens the adoption and acceptance of a common lexicon and understanding of key concepts. This was especially critical in an emerging, quickly evolving sector such as financial inclusion, where language changes and new concepts develop often. Digital Frontiers prioritised choices that enabled and strengthened the development of this professional cadre, and in turn addressed this fundamental gap.

Target Participants. Digital Frontiers complemented established policy-oriented programmes by engaging a wider range of practising professionals and creating shared learning environments in which policymakers, regulators, providers, and other practitioners learned together. Although Digital Frontiers prioritised practising professionals from across the public and private spheres, including staff from commercial banks, nongovernmental organisations, fintech organisations, and a broad range of other finance-adjacent sectors, they never excluded policymakers, central bankers, regulators and other senior policymaking individuals. In fact, the Digital Frontiers approach bridged the gap between policymakers and practitioners, giving them opportunities to grow together and build a shared lexicon and perspective.

Curriculum Content. When Digital Frontiers launched their Certificate in Digital Money (CIDM) course in 2016, they included topics that had previously been underrepresented in existing courses. They delved deep into digital financial services and digital transformation-specific topics, including business model types and associated risks; understanding and designing for customers; technology considerations; and safety and security concerns, among many others.

Methodology. Multiple aspects of Digital Frontiers' methodology were unique compared to what already existed. Most providers at the time relied on seminars, workshops, or self-paced online courses. Many were event-based (i.e., single- or multi-day trainings) that prioritised instructor-led content. In contrast, Digital Frontiers designed a programme that emphasised **peer learning** via cohorts who engaged during the same timeframe (i.e., fixed start and end dates), attended instructor-led sessions, completed assignments, and collaborated with their fellow participants over an extended period. Cohorts brought together participants from different countries and sectors, allowing engagement with a diverse set of viewpoints and learning from each other's experiences.

Designed to be dynamic, **practitioner-led courses** heavily focused on problem-solving real-world practical challenges, completing group projects through diverse cross-country and cross-sector teams, analysing case studies from emerging markets, and completing assessments before certification.

Digital Frontiers deliberately engaged experts in **adult learning and pedagogical approaches** while designing their courses and certifications, ensuring that content and approaches consider not only technical concerns but also how adult practitioners absorb, process, and retain knowledge. One tangible example is the integration of network building and community establishment in their methodology. While coursework supports skill and knowledge development, it is not optimal for addressing other key components of long-term success. To strengthen networking, local application of concepts, confidence, and ongoing learning, Digital Frontiers recognised the need for continuous professional development and explored options for ensuring their programme went beyond just knowledge transfer. Soon after launching the original CIDM course, Digital Frontiers integrated Communities of Practice (CoPs) into their learning methodology. These CoPs were designed to help cultivate and strengthen the digital finance profession by giving participants a space to share experiences, debate and explore ideas, and

build personal relationships and professional networks. This helped foster a strong sense of community and camaraderie among participants. More recently, the organisation has become more explicit about the learning-design principles underpinning its approach, including outcomes-driven design, guided practice, application, retention and contextualisation.

How Practitioner-Led Learning Built a Global Digital Finance Profession

From the outset, Digital Frontiers' approach was practitioner- and subject-matter-expert-led. Rather than developing courses solely from an academic or theoretical perspective, the curriculum was grounded in real-world challenges and the practical knowledge required by professionals working in digital finance. Experienced technical experts and practitioners played an important role in developing and delivering course content, bringing current market practice, examples and country-level realities into the learning experience.

Practitioner knowledge was also incorporated through the way courses are taught. Case studies, practical exercises, discussion and peer learning allow participants to apply concepts to their own institutional and country contexts and to learn from the experiences of other practitioners. CoPs have further supported this exchange of knowledge beyond the formal course content. More recently, this approach has evolved to include more explicit application through practical challenges and capstone projects.

Academic rigour was also an important component of the original model. Digital Frontiers partnered with the Fletcher School at Tufts University, which provided academic input and supported the quality and rigour of the programme.

After launching its first ten-week course, CIDM, Digital Frontiers continued to expand its course offering in response to emerging needs across the digital finance sector. New courses covered areas such as digital public infrastructure, digital financial inclusion supervision, consumer protection, digital identity, payment systems and regulatory technology.

In 2017, Digital Frontiers established the Certified Digital Finance Practitioner (CDFP) programme, a career-linked professional certification programme. This three-year programme built on the CIDM; the new Digital Finance Practitioner certificate required completion of the CIDM coupled with additional coursework chosen from a portfolio of 22 electives at the time. The first cohort of ten CDFPs graduated in 2019; as of July 2026, more than 1,024 people have completed the CDFP programme.

Now, a decade later, Digital Frontiers has delivered nearly 2 million instructional hours to over 42,000 participants in 186 countries; supported the emergence of 16 national professional associations; and incubated the creation of a global professional association (the Alliance of Digital Finance and Fintech Associations). In addition to supporting individual participants, Digital Frontiers also scaled through partnerships with major development organisations, including FSD Africa and the Gates Foundation (previously known as the Bill and Melinda Gates Foundation) and corporate entities and foundations including the CapitalPlus Exchange and the Mastercard Foundation, which allowed professionals in low- and middle- income countries access to their learning experiences through scholarships and donor-funded programmes.

A testament to Digital Frontiers' implementation success is that individual professionals and a wide range of employers recognise the value of the coursework and certifications enough to invest their own resources. For example, individual organisations, financial institutions, and central banks (including Accion, EthSwitch, FSD Africa, MTN Benin, National Bank of Rwanda, and Bank of Zambia) have incorporated Digital Frontiers offerings into their organisational training and professional development efforts as recommended (and in some cases, mandatory) courses.

What Impact Has Digital Frontiers Had on Financial Inclusion?

> "It really helps to have colleagues speaking the same language and sharing the same understanding of DFD. What the course has done is that it has helped to shape our line of thinking, so everyone in the team is aligned. This makes our decisions quicker."
>
> **Kwashie Agbitor**
> Accion (Ghana),
> Certified Digital Finance Practioner

Although the number of individuals trained and courses delivered are impressive metrics, the true impact of Digital Frontiers' approach goes well beyond instructional hours and course curricula. Digital Frontiers alumni worldwide, new and old, are well-integrated into all levels of the financial inclusion ecosystem in their respective countries – and in cross-border institutions in the public and private sectors.

They have translated their new knowledge, relationships, and mindsets into tangible, diverse change at all levels of the financial system.

Shared Language. In follow-up surveys and impact evaluations, Digital Frontiers alumni consistently highlighted the positive impact of cultivating a shared vocabulary. This recurring theme transcended their positions within the system (i.e., public vs private sector, practitioners vs policymakers). People across different institutions developed common concepts and terminology, which made collaboration and problem-solving easier. While this may seem foundational, the lack of a common lexicon or shared understanding of concepts and meanings can significantly impede work efficiency and effectiveness.

Industry Innovation. Participants working directly in the finance sector – and with prospective financial services customers – created an environment better equipped to provide what end users need and want. For example, the Rukiga Savings and Credit Cooperative (SACCO) in rural southwestern Uganda primarily serves small-scale farmers. To access services in this cash- and paperwork-based system, farmers had to travel to one of seven branches, incurring significant transport costs in the process. An alumnus of the CIDM and Mobile Money Operations courses recognised that a digitised system would better serve the end users and the SACCO. Moreover, they sought out partnerships with a mobile network operator, which would allow customers to use mobile wallets to conduct business. This new mobile money system launched in April 2019; interest and uptake was immediate.

Alumni at MTN Mobile Money Benin are innovating new products to better serve the needs of end users using knowledge gained from CIDM and other Digital Frontiers courses. For example, they developed an e-commerce platform for mobile money based on a Chinese model they had studied in their

coursework. At MTN Mobile Money Rwanda, another alumnus supported colleagues with a plan to assist clients in accessing e-money from microfinance institutions.

In Ethiopia, Digital Frontiers alumni at EthSwitch (as well as alumni from connected organisations) have significantly contributed to enhancing Ethiopia's payment ecosystem. Fully owned by all banks in Ethiopia, EthSwitch provides e-payment infrastructure for retail payment service providers. Their efforts have been instrumental in implementing key projects including the Instant Payment System, National Payment Gateway, and Shared Wallet Service, which are modernising Ethiopia's payment landscape. The Shared Wallet Service is particularly noteworthy, with the potential to expand access to a large swath of lower-income individuals in rural areas.

Regulatory Changes. Though Digital Frontiers placed great emphasis on practitioners, regulators and policymakers were welcomed and encouraged to engage in courses and alumni associations. In addition to participating in typical cohorts along with a range of other participants, regulators were sometimes the focus of targeted projects. For example, in Bangladesh, Gates Foundation-funded scholarships enhanced the digital finance knowledge and capabilities of public sector professionals at Bangladesh Bank, the Ministry of Finance, and the Microcredit Regulatory Authority over three years (2020-2023). Through this programme,[1] 522 current Bangladesh Bank officials passed nearly 2,678 Digital Frontiers courses, producing 178 qualified CDFPs. While this scholarship programme had a strong impact on Bangladesh's regulators, it is important to emphasise that Digital Frontiers trained a wide range of participants (including additional bank employees) from a diverse range of Bangladeshi organisations outside of this programme. Between 2020 and May 2026, 673 individuals representing 122 organisations completed Digital Frontiers coursework. Moreover, by May 2026, 258 current Bank of Bangladesh employees had completed the CDFP coursework, a 45% increase since the programme concluded. Together, this data presents strong evidence of the breadth and depth of the programme and the extensive reach of a broad cross-section of alumni.

Digital Frontiers alumni in Bangladesh have significantly contributed to the country's rapidly evolving and modernising digital services environment. CDFP programme alumni at the Financial Inclusion Department and the National Financial Inclusion Strategy Administrative Unit at Bangladesh Bank have influenced policymaking. In addition to drafting Bangladesh's Financial Literacy Guidelines for banks and financial institutions in 2022, they also influenced the passage of the Secured Transactions (Movable Collateral) Act of 2023. This Act modernised the legal framework for secured lending, broadening the definition of collateral to make credit more accessible to small and medium-sized businesses and the self-employed.

Alumni also directly influenced changes in the payment systems policy environment that have helped enhance customer trust in the financial sector. For example, one alumnus served on the five-member drafting committee for the Digital Commerce Act of 2023, which addressed a range of critical e-commerce concerns to improve customer trust, protect customers from fraud and deception, and regulate the sector.

[1] Digital Frontiers alumni data reflects an alumnus' most recent employer. Given this, it is possible these estimates reflect fewer than the actual number of Bank of Bangladesh employees who participated in this programme (if they have since left the bank).

Why Do Professional Associations Matter for Systems Change?

Professional Associations. One distinct advantage of Digital Frontiers' approach was its deliberate focus on building professional relationships and networks. Diverse cohorts brought together professionals from across public and private institutions, while CoPs created opportunities for participants to share local practical knowledge and learn from one another. However, participation in these CoPs was limited to active course participants, meaning there was no coordinated way for alumni to maintain the relationships they had built once their courses ended. Alumni themselves recognised the value of these connections and wanted to find ways to sustain them beyond the cohort.

In response, Digital Frontiers established the first Alumni groups in 2018, bringing together alumni and current participants. They were also open to broader participation with no requirement to have taken the courses or programmes. Alumni groups engaged in a wide range of activities, including hosting international and local speakers, discussing industry critical issues, and providing a balanced avenue for socialising and connection building. As the country-level alumni groups spooled up and engaged with their local finance ecosystems, some decided to take the alumni groups further. In late 2018, the Uganda alumni group officially registered as the Digital Frontiers Association of Uganda, becoming the first country-level professional association to emerge from the original CIDM CoP. Additional alumni associations followed in their footsteps, establishing themselves as professional country associations.

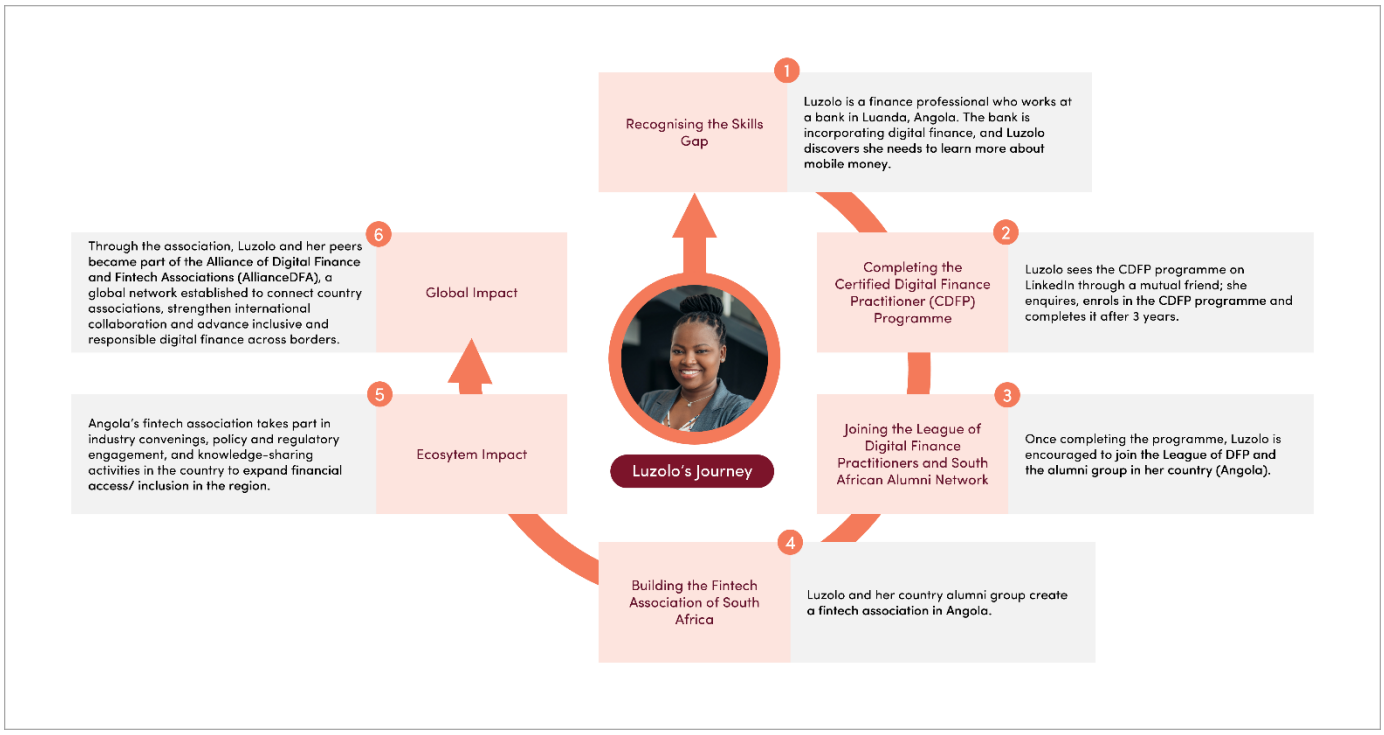


Figure 1: An Example of the Digital Frontiers Ecosystem-Building Journey

These professional associations contribute directly to the growth and evolution of the digital services sectors in their respective countries. For example, the Digital Finance Professionals Ghana (DFP Ghana) facilitated industry dialogue on electronic mobile taxation in reaction to the proposed Electronic Transfer Levy Act of 2022. DFP Ghana convened discussions with representatives from the Central Bank of Ghana, the Ministry of Finance, commercial banks, financial service providers, fintechs, microfinance organisations, civil society organisations, and other industry associations to assess the implications of the taxes, particularly potential negative consequences for vulnerable populations. Together, DFP

Ghana and other stakeholders advocated against the passing of the Act. While the Levy Act ultimately passed, the advocacy of DFP Ghana and others led to a 0.5% reduction in the levy. While the result was imperfect, it was an improvement that likely would not have happened without DFP Ghana's engagement.

> Fintech.MZ serves on the Steering Committee and the Supervisory Body for the new National Financial Inclusion Strategy for 2024-2030. Fintech.MZ also participates in three Working Groups and is responsible for executing two actions in the strategy: developing and delivering digital payment solutions to the market; and leveraging mobile platforms to develop user-friendly mobile solutions for insurance enrolment, premium payments, claims, and customer support.

Similarly, the Mozambique Fintech Association (Fintech.MZ) recently collated feedback at the National Financial Inclusion Working Group advocating for the National Institute for Securities to expand its platform for sending government-to-person social payments to low-income and vulnerable populations across the country. Previously, the platform's structure and tendering process only permitted one institution to deliver funds, stifling access. Fintech.MZ's feedback influenced tendering reforms and prompted integration of an Application Programming Interface (API) that facilitates inclusion of new financial service providers to connect and distribute funds. Together, these efforts should increase recipient choice and the amount distributed, covering a larger population and bolstering financial resilience.

How Global Alumni Groups formed the Alliance of Digital Finance and Fintech Associations

Global Association. With their start as Digital Frontiers-connected alumni groups, the new country associations still sought connection beyond their political and immediate regulatory borders. They wanted an entity to play a convening role across the growing profession and continue cultivating international credibility. Together, ten digital finance associations conceptualised and founded the Alliance of Digital Finance and Fintech Associations (AllianceDFA) in 2020. With the signing of bilateral agreements between these members, AllianceDFA officially launched in September 2021. Today, AllianceDFA has expanded to 43 digital finance and fintech members representing 50 countries worldwide. By empowering its members with the resources to impact local markets, AllianceDFA strengthens the digital finance ecosystem globally, enabling the development of inclusive and responsible digital finance projects and services.

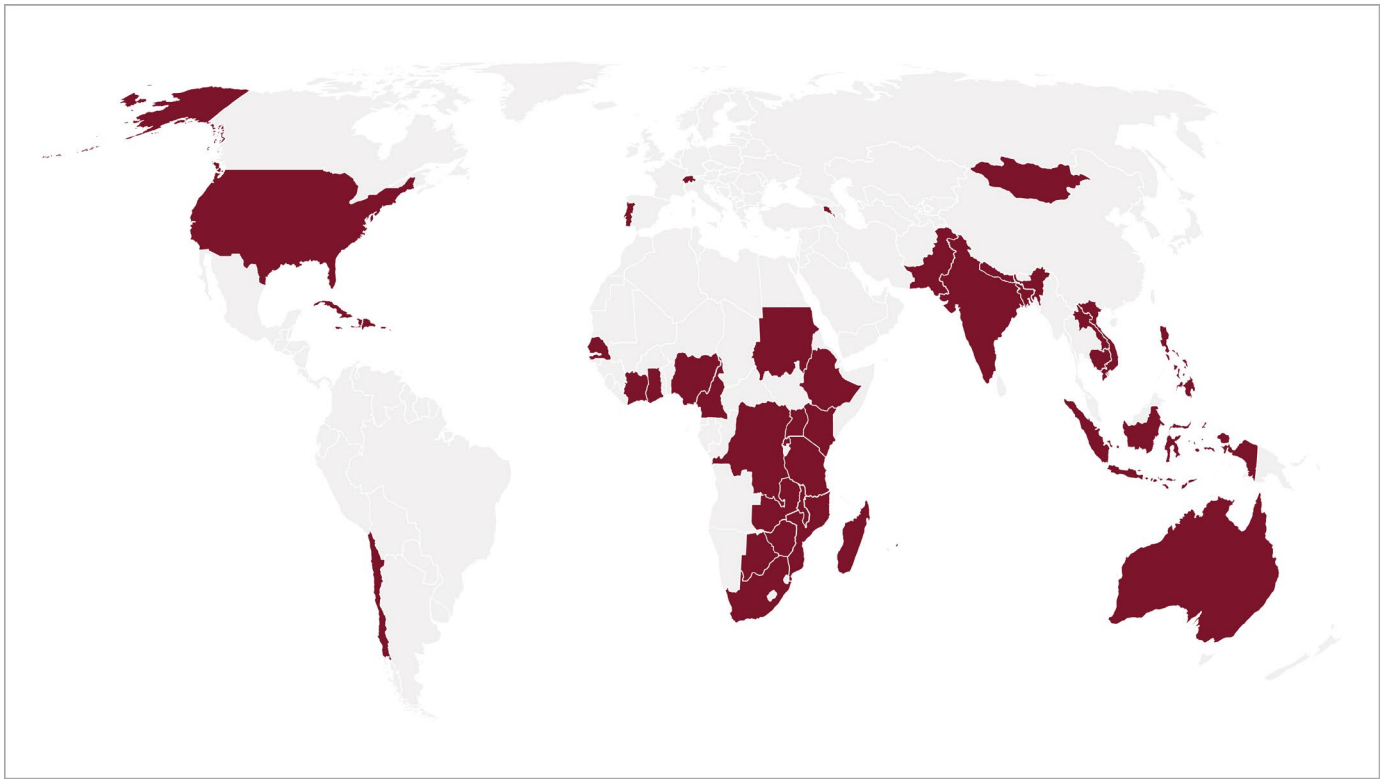


Figure 2: 43 Digital Finance Associations Representing 50 Countries

What Can Other Sectors Learn from the Digital Frontiers Experience?

Sustainable, exponential change to existing systems is the desired outcome across a wide range of programming. Even when the willingness and desire for meaningful change are strong, a myriad of factors often impede long-term success. Although Digital Frontiers did not follow an established system change approach or philosophy approach, elements of their core approach drove their success and serve as strong indicators for how this may be replicated in other sectors.

Diverse Actors. From the beginning, Digital Frontiers engaged with a broad range of actors from across multiple sectors. Participants were encouraged from the public and private sectors, ensuring that everyone within the ecosystem was introduced to the same information and language. This shared language and knowledge base enabled the ecosystem to operate more effectively and efficiently. Alumni groups further expanded this welcoming environment for diverse actors, allowing for participation beyond the original participants. This intentionally inclusive approach has continued within the national associations.

Network Building. Soon after launching the online learning experiences, Digital Frontiers prioritised peer-to-peer learning via CoPs. These CoPs were the foundation for the early networks that formed from the Digital Frontiers courses and continued to grow and expand as they transformed. At all times, Digital Frontiers considered network building a critical component to long-term success, and not simply an optional add-on.

Local Ownership and Co-creation. Digital Frontiers actively chose to centre local ownership through co-creation. Most notably, the approach to transitioning alumni groups to professional associations relied upon collaborative workshops that permitted each alumni group to design structures and memberships

that best meet their needs. Furthermore, the stepped evolution from the CoPs to the current AllianceDFA responded directly to the desires of the digital finance community, first at the individual level, and then at the collective level, rather than being an idea imposed by an external group.

While these individual examples of alumni achieving or supporting major institutional change are impressive, the true significance of Digital Frontiers' work is that people with shared knowledge and relationships were increasingly present across different parts of the system and could apply that capability when opportunities arose.

How Can the Digital Frontiers Model Be Applied to Other Sectors?

The Digital Frontiers story is compelling, offering an example of how a nascent system lacking a strong shared knowledge base, language, and skill set can be transformed through intentional engagement across all aspects of the larger ecosystem. The approach taken by Digital Frontiers – prioritising the engagement of practitioners in addition to policymakers, building connections and networks across multiple dimensions, peer learning, local ownership – is one that could be transferred to domains plagued by similar challenges such as youth entrepreneurship, climate finance, or inclusive insurance.

For those contemplating a similar approach to address systemic issues, it is vital to assess the existing situation to determine potential applicability. This approach may be best suited to situations where:

- Practitioners have uneven levels of knowledge and access to quality professional development opportunities.
- Policymakers and practitioners may not share a common language and/or understanding of the sector or each other's needs/perspectives.
- Opportunities to bring together actors from different institutions to learn and problem-solve together are limited.
- Relationships are challenging to maintain beyond traditional grant programmes or project cycles.
- Opportunities for local voices to actively shape structures and priorities are limited or inconsistent.
- Institutional decisions and implementation challenges are not linked to learning.

Recommendations for Building Talent Ecosystems in Emerging Markets

Nearly a dozen years of Digital Frontiers' work in financial inclusion shows what can happen when professional learning is designed to move beyond individual capability and instead connect people across a sector around shared knowledge, language, relationships, and practice.

A shared professional journey can begin with structured learning, but it should be designed from the outset to connect people across institutions, roles, and perspectives and to continue beyond the formal learning experience. The aim is not simply to strengthen individual capability, but to create the shared knowledge, relationships, professional identity, and mechanisms for collaboration that allow a sector to develop and respond collectively over time.

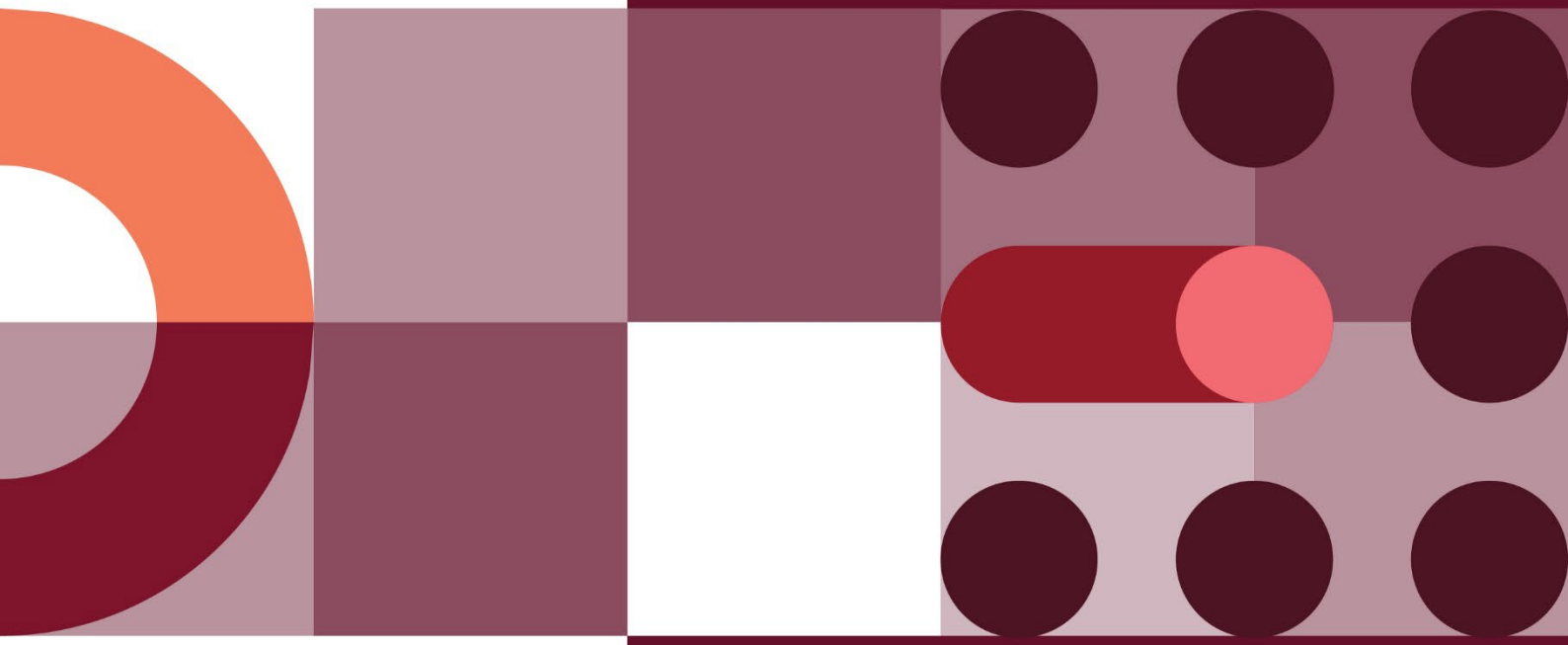
In practice, this means:

- **Bring the system into the learning journey.** Convene practitioners, policymakers, regulators, private-sector actors, civil society, and other relevant stakeholders around common challenges rather than developing separate learning tracks for each group.
- **Develop shared language and understanding.** Use learning experiences to create common reference points, concepts, and frameworks that make collaboration across institutions easier.
- **Connect learning to real work.** Ground the journey in actual institutional and sector challenges, giving participants opportunities to apply their learning, solve problems together, and adapt approaches to their own contexts.
- **Build relationships intentionally.** Treat peer learning, networks, and trust as core programme outcomes rather than secondary benefits of training.
- **Create continuity beyond the programme.** Establish CoPs, professional networks, associations, or other structures through which relationships, learning, and collaboration can continue.
- **Allow local ownership to grow.** Over time, enable participants and local institutions to shape the agenda, structures, and priorities rather than maintaining permanent external control.
- **Invest for the long term.** Professional ecosystems and systemic change develop over years rather than through isolated projects. Funding and programme design should reflect that reality.

The precise form will differ by sector, but the underlying proposition remains consistent: rather than repeatedly building the capabilities of individuals in isolation, create a shared journey through which the people responsible for changing a system can learn, connect, apply, and ultimately lead that change together.

The Digital Frontiers experience does not suggest that capacity-building alone changes systems. It suggests that learning can become part of the infrastructure of change when it builds professional capability across a system, connects people across institutional boundaries, supports locally led networks, and remains tied to the real decisions and challenges through which systems evolve.

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